U.S. Department of the Interior
Bureau of Land Management
White River Field Office
73544 Hwy 64
Meeker, CO 81641

ENVIRONMENTAL ASSESSMENT

NUMBER: CO-110-2005-103-EA

CASEFILE/PROJECT NUMBER (optional): COC062053

PROJECT NAME: Ryan Gulch 43-15-2987

LEGAL DESCRIPTION: T2S, R98W, Sect. 15, NESE, 6th P.M.

APPLICANT: Williams Production RMT Company

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:

Proposed Action: The applicant proposes to construct a 1.38 acre well pad with dimensions of 300 x 200 feet and upgrade 4,100 feet (0.78 miles) of an existing two-track road.

Access to the proposed well pad location would include using existing roads and upgrading an existing two-track. The subgrade (i.e., running surface) width for the upgraded two-track would be approximately 16 feet, with a total disturbed width of 50 feet. Direct surface disturbance acreage for the upgrade would equal approximately 5 acres. Plans for improvement and/or maintenance of existing roads include maintaining existing roads in as good or better condition than at present. Access roads and surface disturbing activities will conform to standards outlined in the USGS publication (1978) Surface Operation Standards for Oil and Gas Development.

Total acres disturbed for the well and upgraded road would equal approximately 6 acres, and construction activities would tentatively start on 1 June 2005. Well pad and road construction activities would end in mid to late July. The proposed well pad location is at an elevation of 6,662 feet and is located in the Ryan Gulch drainage.

If a tank battery is constructed on this lease, a dike of sufficient capacity to contain 110% times the storage capacity of the largest tank will surround it. All loading lines and valves will be placed inside the berm surrounding the tank battery. All site security guidelines identified in 43 CFR 3162.7 regulations will be adhered to. If Williams proposes off-lease storage, off-lease measurement, or commingling on or off-lease, Williams will apply separately for written approval from the Authorized Officer (AO). Gas meter runs for this well will be located within one hundred (100) feet of the wellhead. The gas flowline will be buried from the wellhead to the meter and downstream for the remainder of the pad. Meter runs will be housed and/or fenced.

Reserve pits will be well constructed and under no circumstances will they be allowed to leak or be cut to drain. They will not be located on natural drainages. Waste or discharge of any kind will not be allowed to enter any drainage. Produced waste water could be confined to the pit for a period of 90 days after initial production. During the 90 day period the required waste analysis will be submitted for the Authorized Officer's approval, pursuant to Onshore Oil and Gas Order No. 7 (NTL-2B). A permanent steel tank will be installed in the ground next to the production facilities to contain any produced water for the duration of the well. An earthen pit may be applied for per Onshore Oil and Gas Order No. 7 (NTL-2B). Produced water will be disposed of at an approved disposal site.

Immediately upon completion of drilling, the location and surrounding area will be cleared of all remaining debris, materials, and trash not required for production and hauled to the nearest legal landfill. Water-based reserve pit fluids will be backfilled within one year of construction or by the end of the succeeding summer (August 31) to allow for evaporation of fluids unless an alternative method of disposal is approved.

No Action Alternative: The proposed well pad and access road would not be constructed. No new surface disturbing or drilling activities would occur.

NEED FOR THE ACTION: To respond to request by applicant to exercise lease rights and develop potential hydrocarbon reserves.

PLAN CONFORMANCE REVIEW: The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5, BLM 1617.3):

Name of Plan: White River Record of Decision and Approved Resource Management Plan (ROD/RMP).

Date Approved: July 1, 1997

Decision Number/Page: Pages 2-49 thru 2-52

Decision Language: "To make public lands available for the siting of public and private facilities through the issuance of applicable land use authorizations, in a manner that provides for reasonable protection of other resource values."

AFFECTED ENVIRONMENT / ENVIRONMENTAL CONSEQUENCES / MITIGATION MEASURES:

STANDARDS FOR PUBLIC LAND HEALTH: In January 1997, Colorado Bureau of Land Management (BLM) approved the Standards for Public Land Health. These standards cover upland soils, riparian systems, plant and animal communities, threatened and endangered species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. Because a standard exists for these five categories, a

finding must be made for each of them in an environmental analysis. These findings are located in specific elements listed below:

CRITICAL ELEMENTS

AIR QUALITY

Affected Environment: Ryan Gulch is not located near any special designation air sheds or non-attainment areas. During periods of low precipitation, air quality in the area of the proposed action is often diminished by dust caused by human disturbance. . However, airborne particulate matter should not exceed Colorado air quality standards on an hourly or daily basis.

Environmental Consequences of the Proposed Action: Removal of ground cover will leave soils exposed to eolian processes until mitigation is complete. Elevated levels of fugitive dust would result with strong winds and increased human activity during dry periods. Construction of the well pad and improvement of the existing road should not greatly compromise National Ambient Air Quality Standards (NAAQS) for particulate mater which calls for a maximum 24-hour average to be less than or equal to 150 $\mu g/m^3$.

Environmental Consequences of the No Action Alternative: None

Mitigation: Cover stockpiled topsoil to prevent wind erosion. Dust abatement (e.g. spreading water on road ways) will be utilized to reduce fugitive dust levels during construction and periods of high use.

CULTURAL RESOURCES

Affected Environment: The proposed well pad location and access road have been inventoried at the Class III (100% pedestrian) level (Conner et al 2004, Compliance Dated 12/14/2004) with no new cultural resources identified in the well pad or access road area.

Environmental Consequences of the Proposed Action: The proposed action will not impact any known cultural resources.

E*nvironmental Consequences of the No Action Alternative:* There would be no new impacts to cultural resources under the No Action Alternative

Mitigation: 1. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- Whether the materials appear eligible for the National Register of Historic Places
- The mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary)
- A timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

INVASIVE, NON-NATIVE SPECIES

Affected Environment: There are no known noxious weeds at the proposed drill site or access road. The invasive alien cheatgrass (*Bromus tectorum*) occurs throughout the project area, primarily on areas of unrevegetated earthen disturbance associated with roads.

Environmental Consequences of the Proposed Action: The proposed action will create about 7 acres of earthen disturbance, which if it is not revegetated with desirable species and /or treated with herbicides to eradicate cheatgrass, will be invaded and dominated by cheatgrass, increasing the potential for fire and the consequent further proliferation of cheatgrass. The resulting proliferation of cheatgrass will perpetuate a downward cycle of environmental degradation that will be largely irreversible.

Environmental Consequences of the No Action Alternative: There will be no change from the present situation

Mitigation: Promptly revegetate all disturbed areas not necessary for production with Native Seed mix #3 (see Vegetation). The operator will be required to eradicate all noxious and invasive species which occur on site using materials and methods approved in advance by the Authorized Officer.

MIGRATORY BIRDS

Affected Environment: There are a number of migratory birds that fulfill nesting functions in the mixed shrub and pinyon-juniper types traversed by this project during the months of May, June, and July, including several species identified as having higher conservation interest by the Rocky Mountain Bird Observatory, Partners in Flight program (i.e., Virginia's warbler, pinyon jay, violet-green swallow, juniper titmouse, gray flycatcher, black-throated gray warbler). Species associated with these woodland communities are typical and

widely represented in the Resource Area and region. These birds are well distributed at appropriate densities in this Resource Area's extensive woodland habitats.

Although the project area and areas adjacent to the project area have no open water or wetland areas to support or attract waterfowl, the development of reserve pits that contain drilling fluids may attract waterfowl for purposes of resting and/or foraging, at least during migration (i.e., local records: mid-March through late May; mid-October through late November).

Environmental Consequences of the Proposed Action: Construction of the well pad will remove approximately 1.4 acres of pinyon/juniper habitat. Construction during the migratory bird nesting season (May through July period) would be disruptive and nests could be lost. Recent studies suggest that nesting density tends to be reduced (i.e., 50%) in close proximity (i.e., within 300') of roads. Typically one pair of high interest bird species occur per hectare. Although the proposed actions would represent an incremental and longer term reduction in pinyon/juniper woodland, implementation of the proposed actions would have no measurable influence on the abundance or distribution of breeding migratory birds at any landscape scale.

It has recently been brought to BLM's attention that in certain situations migratory waterfowl (i.e., teal and gadwall) have contacted oil-based drilling fluids stored in reserve pits during or after completion operations and are suffering mortality in violation of the Migratory Bird Treaty Act. The extent and nature of the problem is not well defined, but is being actively investigated by the federal agencies and the companies. Until the vectors of mortality are better understood, management measures must be conservative and relegated to preventing bird contact with oil-based drilling fluids that may pose a problem.

Environmental Consequences of the No Action Alternative: There would be no action authorized that would have potential to disrupt the breeding activities of migratory birds.

Mitigation: Pits remaining after the drilling period which store or are expected to store production fluids will be wired or netted to prevent or discourage entry by larger birds attracted to sources of water, including raptors and waterfowl. At a minimum, wire will be stretched over the entire length and breadth of the pit at intervals not exceeding three feet, and made permanently conspicuous either by choice of material or installation of flagging material evenly distributed across the pit at a minimum rate of one flag per 18 square feet.

THREATENED, ENDANGERED, AND SENSITIVE ANIMAL SPECIES (includes a finding on Standard 4)

Affected Environment: No threatened or endangered animals are present in, or in the vicinity of, the proposed project area.

Environmental Consequences of the Proposed Action: None

Environmental Consequences of the No Action Alternative: None

Mitigation: None

Finding on the Public Land Health Standard for Threatened & Endangered species: There is no reasonable likelihood that the proposed action or no action alternative would have an influence on the condition or function of Threatened, Endangered, or Sensitive animal species.

WASTES, HAZARDOUS OR SOLID

Affected Environment: There are no known hazardous or other solid wastes on the subject lands. No hazardous materials are known to have been used, stored or disposed of at sites included in the project area.

Environmental Consequences of the Proposed Action: No listed or extremely hazardous materials in excess of threshold quantities are proposed for use in this project. While commercial preparations of fuels and lubricants proposed for use may contain some hazardous constituents, they would be stored, used and transported in a manner consistent with applicable laws, and the generation of hazardous wastes would not be anticipated. Solid wastes would be properly disposed of.

Environmental Consequences of the No Action Alternative: No hazardous or other solid wastes would be generated under the no-action alternative.

Mitigation: The applicant shall be required to collect and properly dispose of any solid wastes generated by the proposed actions.

WATER QUALITY, SURFACE AND GROUND (includes a finding on Standard 5)

Affected Environment: Surface Water: The proposed action is located entirely in the Ryan Gulch catchment area which is a tributary to Piceance Creek (tributary to the White River). A review of the Colorado's 1989 Nonpoint Source Assessment Report (plus updates), the 305(b) report, the 303(d) list and the Unified Watershed Assessment was done to see if any water quality concerns have been identified. The State has classified stream segment 16 of the White River Basin as "Use Protected" and further designated as beneficial for the following uses: Warm Aquatic Life 2, Recreation 2, and Agriculture. The antidegredation review requirements in the Antidegredation Rule are not applicable to waters designated use-protected. For those waters, only the protection specified in each reach will apply. For this reach, minimum standards for four parameters have been listed. These parameters are: dissolved oxygen = 5.0 mg/l, pH = 6.5 - 9.0, Fecal Coliform = 2000/100 ml, and 630/100 ml E. coli. This segment retained its Recreation Class 2 designation after sufficient evidence was received that a Recreation Class 1a use was unattainable.

Ground Water: The proposed action is located in an area of local ground water recharge. Deeper aquifers will likely be encountered in the drilling process.

Environmental Consequences of the Proposed Action: Improvement of the existing two-track road and construction of the proposed well pad will result in temporary exposure of soils to erosional processes. Removal of ground cover would likely increase erosive potential due to runoff and raindrop impact during storm events. Increased traffic on the upgraded road may lead to rut development causing water to be channelized down the roadway. As a result, erosive head cutting will develop at locations water exits the roadway.

Local ground water may be contaminated if a spill results or pit contents are allowed to infiltrate soils. Adverse impacts on deeper ground water are also possible as a result of cross aquifer contamination due to drilling.

Environmental Consequences of the No Action Alternative: None

Mitigation: To mitigate surface erosion due to removal of ground cover at the well pad, it is recommended stockpiled soils be covered and silt fences be used on down gradient sides. It is also recommended that upon reclamation flow deflectors and sediment traps (woody debris) be redistributed over the area along with seed. Also, in upgrading the existing two track, proper drainage structures (drain dips, culverts) must be installed to reduce further surface erosion.

To minimize consequences to ground water resources all pits should be lined. In addition, all wastes associated with construction and drilling will be properly treated and disposed of. Finally, aquifers encountered during the drilling process must be properly sealed off to reduce potential for cross aquifer contamination.

Finding on the Public Land Health Standard for water quality: Ryan Gulch currently meets water quality standards set by the state of Colorado for stream segment 16 of the White River Basin. Following proper mitigation techniques, water quality should not be significantly compromised.

WETLANDS AND RIPARIAN ZONES (includes a finding on Standard 2)

Affected Environment: There are no BLM-administered riparian or wetland communities that have potential to become directly or indirectly involved with project implementation.

Environmental Consequences of the Proposed Action: None

Environmental Consequences of the No Action Alternative: None

Mitigation: None

Finding on the Public Land Health Standard for riparian systems: Because the proposed and no-action alternatives would have no reasonable probability of influencing intermittent or perennial systems that are capable of supporting riparian or wetland communities, application of the land health standard is not applicable.

CRITICAL ELEMENTS NOT PRESENT OR NOT AFFECTED:

No ACEC's, flood plains, prime and unique farmlands, Wilderness, or Wild and Scenic Rivers, threatened, endangered or sensitive plants exist within the area affected by the proposed action. For threatened, endangered and sensitive plant species Public Land Health Standard is not applicable since neither the proposed nor the no-action alternative would have any influence on populations of, or habitats potentially occupied by, special status plants. There are also no Native American religious or environmental justice concerns associated with the proposed action.

NON-CRITICAL ELEMENTS

The following elements **must** be addressed due to the involvement of Standards for Public Land Health:

SOILS (includes a finding on Standard 1)

Affected Environment: The following data is a product of an order III soil survey conducted by the NRCS. The accompanying table highlights important soil characteristics. A complete summary of this information can be found at the White River Field Office.

Soil Number	Soil Name	Slope	Ecological site	Salinity	Run Off	Erosion Potential	Bedrock
40	Hagga loam	0-5%	Swale Meadow	2-8	Slow	Slight	>60
64	Piceance fine sandy loam	5-15%	Rolling Loam	<2	Medium	Moderate to high	20-40
70	Redcreek-Rentsac complex	5-30%	PJ woodlands/PJ woodlands	<2	Very high	Moderate to high	10-20
91	Torriorthents-Rock Outcrop complex	15-90%	Stoney Foothills	--	Rapid	Very high	10-20

Approximately 0.03 miles south west of the application point, the proposed access road crosses 0.06 miles of soil unit # 40 which contains controlled surface use stipulations regarding "fragile" soils on slopes greater than 35%.(CSU-1).

40-Hagga loam is a deep, poorly drained soil found on flood plains and alluvial valley floors. It formed in alluvium derived dominantly from sandstone and shale. Slope is 0 to 5 percent. Areas are long and narrow and are 20 to 300 acres. The native vegetation is mainly water-tolerant grasses. Typically, the surface layer is light brownish gray loam 5 inches thick. Below this to a depth of 60 inches or more is stratified silty clay loam to loamy fine sand. The color is variable because of wetness and stratification. Permeability of this Hagga soil is moderately slow. Available water capacity is high. Effective rooting depth is 60 inches or more for water-tolerant plants, but it is limited to depths between 10 and 20 inches for non-water-tolerant plants. Runoff

is slow, and the hazard water erosion is slight. A seasonal high water table is at a depth of 12 to 24 inches in spring and early in summer. This soil is subject to brief periods of flooding in spring and summer.

64-Piceance fine sandy loam is a moderately deep, well drained soil found in uplands and broad ridge tops. It formed in eolian material and colluvium derived dominantly from sandstone. Areas are elongated and are 20 to 600 acres. The native vegetation is mainly low shrubs, grasses, and a few pinyon trees. Typically, the surface layer is brown fine sandy loam 4 inches thick. The upper 5 inches of the subsoil is brown loam, and the lower 13 inches is light yellowish brown loam. The substratum is very pale brown channery loam 8 inches thick. Hard sandstone is at a depth of 30 inches. Depth to sandstone ranges from 20 to 40 inches. Permeability of this Piceance soil is moderate. Available water capacity is moderately low. Effective rooting depth is 20 to 40 inches. Runoff is slow to medium, and the hazard of water erosion is moderate to high.

70-Redcreek-Rentsac complex can be found on mountainsides and ridges. Areas are elongated and are 40 to 300 acres. The native vegetation is mainly pinyon and juniper trees with an understory of shrubs and grasses. This unit is 60 percent Redcreek sandy loam and 30 percent Rentsac channery loam. The components of this unit are so intricately intermingled that it was not practical to map them separately at the scale used. Included in this unit are small areas of Forelle loam, Piceance fine sandy loam, and Yamac loam. Also included are small areas of Rock outcrop and soils that are similar to these Redcreek and Rentsac soils but are 20 to 40 inches deep to bedrock. Included areas make up about 10 percent of the total acreage. The percentage varies from one area to another. The Redcreek soil is shallow and well drained. It formed in residual and eolian material derived dominantly from sandstone. Typically, the surface layer is brown sandy loam about 4 inches thick. The next layer is brown, calcareous sandy loam about 7 inches thick. The underlying material is very pale brown, calcareous channery loam 5 inches thick. Hard sandstone is at a depth of 16 inches. Depth to hard sandstone or hard shale ranges from 10 to 20 inches. Permeability of the Redcreek soil is moderately rapid. Available water capacity is very low. Effective rooting depth is 10 to 20 inches. Runoff is medium, and the hazard of water erosion is moderate to high.

The Rentsac soil is shallow and well drained. It formed in residuum derived dominantly from sandstone. Typically, the upper part of the surface layer is grayish brown channery loam about 5 inches thick. The next layer is brown very channery loam about 4 inches thick. The underlying material is very pale brown extremely flaggy loam 7 inches thick. Hard sandstone is at a depth of 16 inches. Depth to hard sandstone or hard shale ranges from 10 to 20 inches. Permeability of the Rentsac soil is moderately rapid. Available water capacity is very low. Effective rooting depth is 10 to 20 inches. Runoff is medium, and the hazard of water erosion is moderate to high.

91-Torriorthents-Rock outcrop complex is found on extremely rough and eroded areas on mountains, hills, ridges, and canyonsides. Slopes mainly face south and range from 15 to 90 percent. The native vegetation is mainly sparse shrubs and grasses with some pinyon and juniper trees. This unit is 50 percent Torriorthents that have slopes of 15 to 65 percent and 30 percent Rock outcrop that has slopes of 35 to 90 percent. Included in this unit are small areas of Barcus channery loamy sand, Glendive fine sandy loam, Havre loam, Moyerson stony clay loam, Nihill

channery sandy loam, Patent loam, Redcreek sandy loam, Rentsac channery loam, Sinkson gravelly sandy loam, and Blazon, Castner, and Clifterson channery loams.

Torriorthents are very shallow to moderately deep and are will drained and somewhat excessively drained. They formed in residuum and colluvium derived dominantly from sandstone, shale, limestone, and siltstone. Torriorthents are highly variable. No single profile of Torriorthents is typical, but one commonly observed in the survey area has a surface layer of pale brown channery loam about 3 inches thick. The underlying material is very pale brown channery loam, very channery loam, or fine sandy loam about 13 inches thick. Shale or sandstone is at a depth of 16 inches. Torriorthents are calcareous throughout. In some areas the surface layer is stony or flaggy. Permeability of the Torriorthents is moderate. Available water capacity is very low. Effective rooting depth is 10 to 20 inches. Runoff is very rapid, and the hazard of water erosion is very high.

Rock outcrop consists of barren escarpments, ridge caps, and points of sandstone, shale, limestone, or siltstone. The escarpments are 3 to 50 feet thick and 25 to 2,500 feet long.

Environmental Consequences of the Proposed Action: Improvement of the existing two-track road and construction of the proposed well pad will result in temporary exposure of soils to erosional processes. Removal of ground cover would likely increase erosive potential due to runoff and raindrop impact during storm events. Increased traffic on the upgraded road may lead to rut development causing water to be channelized down the roadway. As a result, erosive head cutting will develop at locations water exits the roadway. Spills or leaks involving environmentally unfriendly substances could impair soils ability to support healthy plant communities.

It appears from the topographic map, that the area delineated as being CSU-1 (fragile soils on slopes >35%) is actually just off of the ridge line and has a slope less than the 35%. Therefore the CSU-1 would not apply.

Environmental Consequences of the No Action Alternative: None

Mitigation: As stated in the water section, it is recommended that upon reclamation, flow deflectors and sediment traps (woody debris) be redistributed over the area along with seed. Also, in upgrading the existing two track, proper drainage structures (drain dips, culverts) must be installed to reduce further surface erosion (comply with "Gold Book" surface operating standards for oil and gas).

Given the salt content of the Hagga Loam, salt tolerant plant species such as those listed in the vegetation section should be utilized to improve successful reclamation.

Finding on the Public Land Health Standard for upland soils: An increase in soil compaction combined with reductions in ground cover will decrease infiltration and permeability rates. However, following proper mitigation techniques, soil health should not be greatly compromised.

VEGETATION (includes a finding on Standard 3)

Affected Environment: The proposed access road and location will be built primary in mature pinyon –juniper woodland.

Environmental Consequences of the Proposed Action: The primary impact of the proposed action upon vegetation will be from physical destruction of vegetation on about 7 acres. If operations occur from May through November, truck traffic on access roads will create a large amount of airborne dust which will be deposited on vegetation adjacent to roads. These deposits will impair plant function and also limit/prevent use of the vegetation by native and domestic herbivores.

Environmental Consequences of the No Action Alternative: There will be no change from the present situation.

Mitigation: Promptly revegetate all disturbed areas not necessary for production with Native Seed mix #3. The operator will be required to eradicate all noxious and invasive species which occur on site using materials and methods approved in advance by the Authorized Officer

Native Seed Mix 3			
3	Western wheatgrass (Rosanna) Bluebunch wheatgrass (Whitmar) Thickspike wheatgrass (Critana) Indian ricegrass (Rimrock) Fourwing saltbush (Wytana) Utah sweetvetch Alternates: Needle and thread, globemallow	2 2 2 1 1 1	Gravelly 10"-14", Pinyon/Juniper Woodland, Stony Foothills, 147 (Mountain Mahogany)

If construction/development occurs between April 15 and November 15, the operator will be required to water or surface access roads to reduce airborne dust and damage to roadside vegetation communities.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial)*:* Most of the public land plant communities within the area of the proposed action have an appropriate age structure and diversity of species which meet the criteria established in the standard for vegetation. With successful reclamation, the proposed action would not change this status.

WILDLIFE, AQUATIC (includes a finding on Standard 3)

Affected Environment: There is no aquatic wildlife within or potentially affected by the project area.

Environmental Consequences of the Proposed Action: None

Environmental Consequences of the No Action Alternative: None

Mitigation: None

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Aquatic): Because there is no aquatic wildlife within the project area, the standard is not applicable.

WILDLIFE, TERRESTRIAL (includes a finding on Standard 3)

Affected Environment: Common raptors that may occur within or adjacent to the proposed project area for breeding and/or foraging include red-tailed hawk, coopers hawk, and sharp-shinned hawk. Nongame bird abundance and composition associated with the project area's woodland and shrubland habitats are considered representative and complete with no obvious deficiencies in composition. Small mammal populations and distribution are poorly documented; however, the species potentially occurring on these sites are widely distributed throughout the State and the Great Basin or Rocky Mountain regions. All of these upland species display broad ecological tolerance and are documented from habitats ranging from foothill to alpine sites. No narrowly distributed or highly specialized species or subspecific populations are known to occur in Piceance Basin.

Environmental Consequences of the Proposed Action: Approximately 1.4 acres of mature pinyon/juniper woodland habitat will be removed during construction related activities. These woodlands include suitable nesting habitat for raptors. The proposed project area was systematically inventoried for raptor nests in November 2004; no nests were found.

Nongame bird abundance and composition associated with the project area's woodland and shrubland habitats are considered representative and complete with no obvious deficiencies in composition. Small mammal populations and distribution are poorly documented; however, the species potentially occurring on these sites are widely distributed throughout the State and the Great Basin or Rocky Mountain regions. All of these upland species display broad ecological tolerance and are documented from habitats ranging from foothill to alpine sites. No narrowly distributed or highly specialized species or subspecific populations are known to occur in Piceance Basin.

The proposed project area is not classified as deer or elk critical habitat.

Environmental Consequences of the No Action Alternative: No additional disturbance of wintering big game associated with commercial oil and gas development, or net loss of severe/critical deer winter habitat would occur at this time.

Mitigation: None

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Aquatic): This project would not jeopardize the viability of any animal population. It would have no significant consequence on terrestrial habitat condition, utility, or

function, nor have any discernible affect on animal abundance or distribution at any landscape scale. Thus, potential for meeting the land health standard would not be affected.

OTHER NON-CRITICAL ELEMENTS: For the following elements, only those brought forward for analysis will be addressed further.

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Access and Transportation			X
Cadastral Survey	X		
Fire Management			X
Forest Management			X
Geology and Minerals			X
Hydrology/Water Rights		X	
Law Enforcement		X	
Noise		X	
Paleontology			X
Rangeland Management		X	
Realty Authorizations			X
Recreation			X
Socio-Economics		X	
Visual Resources			X
Wild Horses	X		

ACCESS AND TRANSPORTATION

Affected Environment: The proposed action will utilize BLM road 1019 and persists within an area where routes are limited to existing.

Environmental Consequences of the Proposed Action: The .78 mile in length two track to be upgraded is an existing route. BLM road 1019 will likely see an increase in heavy road traffic due to construction and surface damage may occur.

Environmental Consequences of the No Action Alternative: None.

Mitigation: None.

FIRE MANAGEMENT

Affected Environment: The Ryan Gulch 43-15-2987 well proposed involves approximately 0.78 miles of road construction/upgrade and about 1.38 acres of drill pad clearing for an approximate total of 6.38 acres of disturbance. Due to the existing tree cover of pinion

and juniper, there will be a need for the operator to clear some of these trees. If not adequately treated, these trees will result in elevated hazardous fuels conditions and remain on-site for many years. These accumulations of dead material are very receptive to fire brands and spotting from wind driven fires and can greatly accelerate the rate of spread of the fire front. The road(s) associated with this project may be used by the general public for a variety of uses, including access for fire wood gathering, hunting and other dispersed recreational activities. Increased public use of an area will nearly always result in an increased potential for man-caused wildland fires.

The National Fire Plan calls for "firefighter and public safety" to be the highest priority for all fire management activities. In the pinion, juniper, and brush types common on the White River Resource Area, roads and other man-made openings are commonly used as fuel breaks or barriers to control the spread of both wildland and prescribed fires. By reducing the activity fuels created from this proposal, future fire management efforts in this area should be safer for those involved and more effective.

Environmental Consequences of the Proposed Action: There will be approximately 6.38 acres of road and well pad construction requiring the removal of pinion/juniper fuel type on the 43-15-2987 well site. If not treated the slash and woody debris will create an elevated hazardous dead fuel loading which could pose significant control problems in the event of a wildfire. Additionally there would be greater threat to public, Williams/contracted, and fire suppression personnel.

Environmental Consequences of the No Action Alternative: There would be no tree removal or disturbance which would cause significant dead fuel loading.

Mitigation: Several options may be considered for treatment of slash from this project. A hydro-ax or other mulching type machine could be used to remove the trees. The machines are capable of shredding trees up to 12" in diameter and 15' tall as well as mowing brush like a conventional brush beater. It generally leaves small branches and pieces of wood from pencil size up to bowling ball size. The mulch is evenly scattered across the surface and the tires or tracks distribute the weight of the equipment. This would effectively breakdown the woody fuel and scatter the debris thereby eliminating any hazardous fuel load adjacent to the new road and well pad.

The other option would be to cut trees and have them removed for firewood, posts, or other products as stipulated in the Forest Management section. The branches and tops should be lopped and scattered to a depth of 24 inches or less. If the products are left for collection by the general public, they should be piled along the road side or pad to facilitate removal.

FOREST MANAGEMENT

Affected Environment: The proposed project is within commercial pinyon/juniper woodlands as identified in the White River Land Use Plan. These woodlands were identified as providing commercial quantities of woodland products, in this case firewood and fence posts.

The Land Use Plan identified a limit of 25 acres per year of clear cutting and 75 acres per year of selective cutting within the Piceance Basin. These woodlands are valuable to the local publics providing firewood, fence posts and Christmas trees.

Environmental Consequences of the Proposed Action: The proposed project is expected to remove 4.5 acres of commercial pinyon/juniper woodlands. The removal of this acreage would be considered as part of the yearly allowable harvest level (18%).

Following reclamation pinyon and juniper are expected to colonize the site (30 years) and develop into a mature stand in 200 to 300 years.

Environmental Consequences of the No Action Alternative: No Impacts.

Mitigation: From the White River ROD/RMP of 1997 Appendix B, # 7. All trees removed in the process of construction shall be purchased from the Bureau of Land Management. The trees shall be cut with a maximum stump height of six inches and disposed of by one of the following methods:

a. Trees must be cut before being dozed off the area of disturbance. Trees shall be cut into four-foot lengths, down to four inches in diameter and placed along the edge of the disturbance.

b. Purchased trees may be removed from federal land for resale or private use. Limbs may be scattered off the area of disturbance but not dozed off.

c. Chipped and scattered.

GEOLOGY AND MINERALS

Affected Environment: William's well #43-15-298 is located on Federal Oil and Gas lease COC-62053 in the area identified in the White River ROD/RMP as available for multi mineral leasing. The surface geologic formation of the well location is Uinta with the Green River, Wasatch and Mesaverde formations being penetrated during drilling. The targeted zone is located in the lower Mesaverde/upper Mancos. Potential water, oil shale, sodium, and gas zones will be encountered from surface to the targeted zone. Aquifers that will be encountered during drilling are the Perched in the Uinta, the A-groove, B-groove and the Dissolution Surface in the Green River formation. Sodium resources will be encountered in the Green River formation. Potential Gas producing formations include the Wasatch and Mesaverde.

The Green River aquifer zones and the Wasatch are known for difficulties in drilling and cementing.

Environmental Consequences of the Proposed Action: Drilling and completion of this well may adversely affect the aquifers and the monitoring wells if there is loss of circulation or problems cementing the casing. The proposed cementing and completion procedure of the

surface casing protects and isolates the aquifers in the Green River formation. Potential gas zones in the Wasatch will not be cover with cement which may allow the migration of gas along the annulus of the production casing. The Mesaverde will be covered with cement isolating the gas zones in the formation. Development of this well will deplete the hydrocarbon resources in the targeted formation.

Environmental Consequences of the No Action Alternative: None

Mitigation: The production casing should be cemented from TD to surface casing to cover the potential gas zones in the Wasatch.

PALEONTOLOGY

Affected Environment: The proposed well pad and access road location is located in an area mapped as the Uinta Formation (Tweto 1979) which the BLM has classified as a Condition I formation meaning it is known to produce scientifically important fossils.

Environmental Consequences of the Proposed Action: If it should become necessary to excavate into the underlying bedrock formation to build the road, level the well pad or excavate the reserve/blooie pit there is a potential to impact important fossil resources.

Environmental Consequences of the No Action Alternative: There would be no new impacts to fossil resources under the No Action Alternative.

Mitigation: 1. If it becomes necessary to excavate into the underlying bedrock formation to level the road, level the well pad or excavate the reserve/blooie pit a paleontological monitor shall be present for the excavations.

2. If paleontological materials (fossils) are uncovered during project activities, the operator is to immediately stop activities that might further disturb such materials, and contact the authorized officer (AO). The operator and the authorized officer will consult and determine the best option for avoiding or mitigating paleontological site damage.

RANGELAND MANAGEMENT

Affected Environment: The proposed action occurs within the South Ryan pasture of the Square S allotment (06027). This is a spring/fall use pasture and is used by the Mantle Ranch and Boone Vaughn cattle operations on a yearly basis.

Environmental Consequences of the Proposed Action: The proposed action will result in the long term loss of about 1/2 AUM of livestock forage. This loss is insignificant relative to the total grazing preference on each affected allotment. If the integrity of the affected fences is not maintained, intra-allotment livestock trespass could occur. If airborne dust coats vegetation

adjacent to roads, the usability of that vegetation for forage will be negatively impacted (*see* Vegetation section).

Environmental Consequences of the No Action Alternative: There will be no change from the present situation.

Mitigation: Williams should coordinate with Rio Blanco County and provide a cattleguard for the County to install where RBC Rd 85 crosses the Reagle/ Square S allotment boundary fence in SESW Sec 20, T 2S R 98W. Williams will also install a minimum 20 foot width cattleguard and gate where the access road crosses the pasture fence in SENE Sec 21 T 2S R 98W. All fence work will conform to BLM specifications and the integrity of the fence will be maintained at all times.

REALTY AUTHORIZATIONS

Affected Environment: The access road to the Federal RG 43-15-298 well will require a right-of-way for the off-lease portion of the road.

Environmental Consequences of the Proposed Action: The proposed action will require an amendment to William's existing right-of-way COC67964. There are several right-of-way facilities in the area of the access road. In Sections 21, 22, 28 there are 2 pipeline rights-of-way, COC23293 (Xcel Energy) and COC24022 (KN Energy). These pipelines will be crossed and/or the road will be in between them.

Environmental Consequences of the No Action Alternative: None

Mitigation: 1. The Colorado One Call procedure will have to be implemented before any surface disturbing activities take place (800-922-1987).

2. No surface disturbing activities shall take place on the subject right-of-way until the associated APD is approved. The holder will adhere to special stipulations in the Surface Use Program of the approved APD, relevant to any right-of-way facilities.

3. This right-of-way shall terminate without further action or notice on the part of this Bureau if at any time subsequent to its effective date, the access road facilities authorized are no longer necessary for the holder to service an active oil and gas well.

4. The holder shall furnish and apply water or use other means satisfactory to the authorized officer for dust control.

5. The holder shall construct low-water crossings in a manner that will prevent any blockage or restriction of the existing channel. Material removed shall be stockpiled for use in rehabilitation of the crossings.

6. The holder shall recontour the disturbed area and obliterate all earthwork by removing embankments, backfilling excavations, and grading to re-establish the approximate original contours of the land in the right-of-way.

7. The holder shall construct waterbars on all disturbed areas to the spacing and cross sections specified by the authorized officer. Waterbars are to be constructed to: (1) simulate the imaginary contour lines of the slope (ideally with a grade of one or two percent); (2) drain away from the disturbed area; and (3) begin and end in vegetation or rock whenever possible.

8. If snow removal from road is undertaken, equipment used for snow removal operations shall be equipped with shoes to keep the blade 3-inches off the road surface. Holder shall take special precautions where the surface of the ground is uneven and at drainage crossings to ensure that equipment blades do not destroy vegetation.

9. The holder shall obtain the services of a licensed professional engineer to locate, survey, design, and construct the proposed road as directed by the authorized officer. The road design shall be based on the (1) width, (2) maximum grade, and (3) design speed of the road.

10. As directed by the authorized officer, all road segments shall be winterized by provided a well-drained roadway by water baring, maintaining drainage, and any additional measures necessary to minimize erosion and other damage to the roadway or the surrounding public land.

RECREATION

Affected Environment: The proposed action occurs within the White River Extensive Recreation Management Area (ERMA). BLM custodially manages the ERMA to provide for unstructured recreation activities such as hunting, dispersed camping, hiking, horseback riding, wildlife viewing and off-highway vehicle use.

The project areas area has been delineated/most resembles a Recreation Opportunity Spectrum (ROS) class of Semi-Primitive Motorized (SPM). SPM physical and social recreation setting is typically characterized by a natural appearing environment with few administrative controls, low interaction between users but evidence of other users may be present. SPM recreation experience is characterized by a high probability of isolation from the sights and sounds of humans that offers an environment that offers challenge and risk.

Environmental Consequences of the Proposed Action: The public will lose approximately 6 acres of dispersed recreation potential while wells are in operation. The public will most likely not recreate in the vicinity of these facilities and will be dispersed elsewhere. If action coincides with hunting seasons (September through November) it will most likely disrupt the experience sought by those recreationists.

With the introduction of new well pads and roads, an increase of traffic could be expected increasing the likihood of human interactions, the sights and sounds associated with the human environment and a less naturally appearing environment.

Environmental Consequences of the No Action Alternative: No loss of dispersed recreation potential and no impact to hunting recreationists.

Mitigation: None.

VISUAL RESOURCES

Affected Environment: The proposed action is located within a VRM class III area. The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

Environmental Consequences of the Proposed Action: The proposed action would be located on the top of a ridge densely vegetated with pinyon and juniper trees. There are roads located below the ridge in both valleys that parallel the ridge, approximately one mile distance from the proposed action. The proposed action would not be visible to the casual observer traveling these routes. A casual observer would be able to view the proposed action when traveling on the access road and approaching the well pad, but the proposed action should not dominate the view. By painting all production facilities Juniper Green to mimic the surrounding vegetation, the level of change to the characteristic landscape would be low, and the standards of the VRM III classification would be retained.

Environmental Consequences of the No Action Alternative: There would be no additional impacts.

Mitigation: Paint all production facilities Juniper Green.

CUMULATIVE IMPACTS SUMMARY: Cumulative impacts from oil and gas development were analyzed in the White River Resource Area Proposed Resource Management Plan/Final Environmental Impact Statement (PRMP/FEIS) completed in June 1996. Current development, including the proposed action, has not exceeded the cumulative impacts from the foreseeable development analyzed in the PRMP/FEIS.

REFERENCES CITED:

Conner, Carl E., Curtis Martin, Barbara Davenport and Nicole Darnell
2004 A Class III Cultural Resources Inventory for Eight Proposed Well Locations and Related Accesses in Rio Blanco and Garfield Counties, Colorado for Williams Production RMT Company. Grand River Institute, Grand Junction, Colorado.

Tweto, Ogden

1979 Geologic Map of Colorado. United States Geologic Survey, Department of the Interior, Reston, Virginia.

INTERDISCIPLINARY REVIEW:

Name	Title	Area of Responsibility
Nate Dieterich	Hydrologist	Air Quality
Tamara Meagley	Natural Resource Specialist	Areas of Critical Environmental Concern
Tamara Meagley	Natural Resource Specialist	Threatened and Endangered Plant Species
Michael Selle	Archaeologist	Cultural Resources Paleontological Resources
Mark Hafkenschiel	Rangeland Management Specialist	Invasive, Non-Native Species
Brett Smithers	Natural Resource Specialist-Wildlife Biologist	Migratory Birds, Threatened, Endangered and Sensitive Animal Species, Wildlife
Bo Brown	Hazmat Collateral	Wastes, Hazardous or Solid
Nate Dieterich	Hydrologist	Water Quality, Surface and Ground Hydrology and Water Rights
Brett Smithers	Natural Resource Specialist-Wildlife Biologist	Wetlands and Riparian Zones
Chris Ham	Outdoor Recreation Planner	Wilderness
Nate Dieterich	Hydrologist	Soils
Mark Hafkenschiel	Rangeland Management Specialist	Vegetation
Brett Smithers	Natural Resource Specialist-Wildlife Biologist	Wildlife Terrestrial and Aquatic
Chris Ham	Outdoor Recreation Planner	Access and Transportation
Ken Holsinger	Natural Resource Specialist	Fire Management
Robert Fowler	Forester	Forest Management
Paul Daggett	Mining Engineer	Geology and Minerals
Mark Hafkenschiel	Rangeland Management Specialist	Rangeland Management
Penny Brown	Realty Specialist	Realty Authorizations
Chris Ham	Outdoor Recreation Planner	Recreation
Keith Whitaker	Natural Resource Specialist	Visual Resources
Valerie Dobrich	Natural Resource Specialist	Wild Horses

Finding of No Significant Impact/Decision Record (FONSI/DR)

CO-110-2005-103-EA

FINDING OF NO SIGNIFICANT IMPACT (FONSI)/RATIONALE: The environmental assessment and analyzing the environmental effects of the proposed action have been reviewed. The approved mitigation measures (listed below) result in a Finding of No Significant Impact on the human environment. Therefore, an environmental impact statement is not necessary to further analyze the environmental effects of the proposed action.

DECISION/RATIONALE: It is my decision to approve development of the wells as described in the proposed action, with mitigation measures listed below. This development, with mitigation, is consistent with the decisions in the White River ROD/RMP, and environmental impacts will be minimal.

MITIGATION MEASURES:

1. Cover stockpiled topsoil to prevent wind erosion. Dust abatement (e.g. spreading water on road ways) will be utilized to reduce fugitive dust levels during construction and periods of high use.

2. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- Whether the materials appear eligible for the National Register of Historic Places
- The mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary)
- A timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines

for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

3. Promptly revegetate all disturbed areas not necessary for production with Native Seed mix #3 (see Vegetation). The operator will be required to eradicate all noxious and invasive species which occur on site using materials and methods approved in advance by the Authorized Officer.

4. Pits remaining after the drilling period which store or are expected to store production fluids will be wired or netted to prevent or discourage entry by larger birds attracted to sources of water, including raptors and waterfowl. At a minimum, wire will be stretched over the entire length and breadth of the pit at intervals not exceeding three feet, and made permanently conspicuous either by choice of material or installation of flagging material evenly distributed across the pit at a minimum rate of one flag per 18 square feet.

5. The applicant shall be required to collect and properly dispose of any solid wastes generated by the proposed actions.

6. To mitigate surface erosion due to removal of ground cover at the well pad, it is recommended stockpiled soils be covered and silt fences be used on down gradient sides. It is also recommended that upon reclamation flow deflectors and sediment traps (woody debris) be redistributed over the area along with seed. Also, in upgrading the existing two track, proper drainage structures (drain dips, culverts) must be installed to reduce further surface erosion.

7. To minimize consequences to ground water resources all pits should be lined. In addition, all wastes associated with construction and drilling will be properly treated and disposed of. Finally, aquifers encountered during the drilling process must be properly sealed off to reduce potential for cross aquifer contamination.

8. As stated in the water section, it is recommended that upon reclamation, flow deflectors and sediment traps (woody debris) be redistributed over the area along with seed. Also, in upgrading the existing two track, proper drainage structures (drain dips, culverts) must be installed to reduce further surface erosion (comply with “Gold Book” surface operating standards for oil and gas).

9. Given the salt content of the Hagga Loam, salt tolerant plant species such as those listed in the vegetation section should be utilized to improve successful reclamation.

10. Promptly revegetate all disturbed areas not necessary for production with Native Seed mix #3. The operator will be required to eradicate all noxious and invasive species which occur on site using materials and methods approved in advance by the Authorized Officer

Native Seed Mix 3

Native Seed Mix 3			
3	Western wheatgrass (Rosanna) Bluebunch wheatgrass (Whitmar) Thickspike wheatgrass (Critana) Indian ricegrass (Rimrock) Fourwing saltbush (Wytana) Utah sweetvetch Alternates: Needle and thread, globemallow	2 2 2 1 1 1	Gravelly 10"-14", Pinyon/Juniper Woodland, Stony Foothills, 147 (Mountain Mahogany)

11. If construction/development occurs between April 15 and November 15, the operator will be required to water or surface access roads to reduce airborne dust and damage to roadside vegetation communities

12. Several options may be considered for treatment of slash from this project. A hydro-ax or other mulching type machine could be used to remove the trees. The machines are capable of shredding trees up to 12" in diameter and 15' tall as well as mowing brush like a conventional brush beater. It generally leaves small branches and pieces of wood from pencil size up to bowling ball size. The mulch is evenly scattered across the surface and the tires or tracks distribute the weight of the equipment. This would effectively breakdown the woody fuel and scatter the debris thereby eliminating any hazardous fuel load adjacent to the new road and well pad.

13. The other option would be to cut trees and have them removed for firewood, posts, or other products as stipulated in the Forest Management section. The branches and tops should be lopped and scattered to a depth of 24 inches or less. If the products are left for collection by the general public, they should be piled along the road side or pad to facilitate removal.

15. From the White River ROD/RMP of 1997 Appendix B, # 7. All trees removed in the process of construction shall be purchased from the Bureau of Land Management. The trees shall be cut with a maximum stump height of six inches and disposed of by one of the following methods:

a. Trees must be cut before being dozed off the area of disturbance. Trees shall be cut into four-foot lengths, down to four inches in diameter and placed along the edge of the disturbance.

b. Purchased trees may be removed from federal land for resale or private use. Limbs may be scattered off the area of disturbance but not dozed off.

c. Chipped and scattered.

16. The production casing should be cemented from TD to surface casing to cover the potential gas zones in the Wasatch.

17. If it becomes necessary to excavate into the underlying bedrock formation to level the road, level the well pad or excavate the reserve/blooie pit a paleontological monitor shall be present for the excavations.

18. If paleontological materials (fossils) are uncovered during project activities, the operator is to immediately stop activities that might further disturb such materials, and contact the authorized officer (AO). The operator and the authorized officer will consult and determine the best option for avoiding or mitigating paleontological site damage.

19. Williams should coordinate with Rio Blanco County and provide a cattleguard for the County to install where RBC Rd 85 crosses the Reagle/ Square S allotment boundary fence in SESW Sec 20, T 2S R 98W. Williams will also install a minimum 20 foot width cattleguard and gate where the access road crosses the pasture fence in SENE Sec 21 T 2S R 98W. All fence work will conform to BLM specifications and the integrity of the fence will be maintained at all times.

20. The Colorado One Call procedure will have to be implemented before any surface disturbing activities take place (800-922-1987).

21. No surface disturbing activities shall take place on the subject right-of-way until the associated APD is approved. The holder will adhere to special stipulations in the Surface Use Program of the approved APD, relevant to any right-of-way facilities.

22. This right-of-way shall terminate without further action or notice on the part of this Bureau if at any time subsequent to its effective date, the access road facilities authorized are no longer necessary for the holder to service an active oil and gas well.

23. The holder shall furnish and apply water or use other means satisfactory to the authorized officer for dust control.

24. The holder shall construct low-water crossings in a manner that will prevent any blockage or restriction of the existing channel. Material removed shall be stockpiled for use in rehabilitation of the crossings.

25. The holder shall recontour the disturbed area and obliterate all earthwork by removing embankments, backfilling excavations, and grading to re-establish the approximate original contours of the land in the right-of-way.

26. The holder shall construct waterbars on all disturbed areas to the spacing and cross sections specified by the authorized officer. Waterbars are to be constructed to: (1) simulate the imaginary contour lines of the slope (ideally with a grade of one or two percent); (2) drain away from the disturbed area; and (3) begin and end in vegetation or rock whenever possible.

27. If snow removal from road is undertaken, equipment used for snow removal operations shall be equipped with shoes to keep the blade 3-inches off the road surface. Holder shall take special precautions where the surface of the ground is uneven and at drainage crossings to ensure that equipment blades do not destroy vegetation.

28. The holder shall obtain the services of a licensed professional engineer to locate, survey, design, and construct the proposed road as directed by the authorized officer. The road design shall be based on the (1) width, (2) maximum grade, and (3) design speed of the road.

29. As directed by the authorized officer, all road segments shall be winterized by provided a well-drained roadway by water baring, maintaining drainage, and any additional measures necessary to minimize erosion and other damage to the roadway or the surrounding public land.

30. Paint all production facilities Juniper Green.

NAME OF PREPARER: Brett Smithers

NAME OF ENVIRONMENTAL COORDINATOR: Caroline Hollowed

SIGNATURE OF AUTHORIZED OFFICIAL: _____
Field Manager

DATE SIGNED:
5/19/05

ATTACHMENTS: Location map of the proposed action.

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Location of Proposed Action
CO-110-2005-103-EA